MARKINGS TO SHOW CHANGES MADE" show the changes made to the specification and claims by the current amendment.

Rejection of claims 1, 2, and 5 under 35 USC 103(a) as being unpatentable over Heins et al.

In paragraph 2 of the Office Action, claims 1, 2, and 5 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 4,032,676 to Heins et al for the reasons stated in Paper No. 6.

More specifically, the Office Action refers to the process described in column 3, lines 58-65 of the Heins patent, which describes a method of making N-polyhydroxyalkylamino acids by reductively animating uronic acids in alcohols, ethers or their mixtures with water with amino acids at a temperature between 50° to 100° C in the presence of hydrogenation catalysts. The Office Action states that, although the Heins patent differs from the claimed invention in that the heating is carried out at 105° C or more, it would have been obvious for one skilled in the art to have obtained the optimum temperature range for the process by routine experimentation.

In response, the applicants have amended independent claims 1 and 7 to recite that the claimed process is carried out in the absence of a reduction catalyst. As can be seen on page 2, lines 1 to 13 of the present patent application, the claimed invention was created in response to a long felt need for a simple and expedient method of forming carboxylic acid and amino acid or amino acid condensate reaction compounds that can be safely employed in food product applications. In the past, these reaction compounds were formed in the presence of catalysts which were often toxic to humans, thus requiring scrupulous care in order to ensure that these toxic substances did not contaminate the end product. The present invention solves this long felt need by conducting this reaction in the absence of a reduction catalyst,

thus allowing the reaction products to be simply and inexpensively produced, and to be safely used in food products.

The Heins patent clearly does not teach or suggest the claimed invention, and one skilled in the art would clearly not be motivated to modify the teachings in the Heins patent to arrive at the invention now recited in claim 1. In addition, because the Heins patent does not render the method of claim 1 obvious, it can neither render the invention recited in claims 2 and 5 obvious. Thus, the applicants respectfully request that this rejection be withdrawn in view of the above comments and amendments.

Rejection of claims 1, 3-4, 6-7, and 11 under 35 USC 103(a) as being unpatentable over van Pottelsberghe de la Potterie

In paragraphs 3-6 of the Office Action, claims 1, 3-4, 6-7, and 11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 3,716,380 to van Pottelsberghe de la Potterie.

More specifically, the Office Action states that Potterie patent discloses a method of making flavoring substances by reacting a protein hydrolysate containing soy protein, palmitic acid, methionine, lactic acid, water, xylose, and other substances at a temperature of 100° C (Column 3, Example 2). The Office Action further states that, although the present invention differs from the Potterie patent in that the process is carried out at a temperature greater than 100°C in a high-pressure withstanding container, it would have been obvious to one skilled in the art to modify the teachings of the Potterie patent by using a high-pressure withstanding container and conducting the process at a temperature of greater than 100°C.

The applicants respectfully disagree in two respects.

First, the applicants respectfully disagree with the assertion that the Potterie patent teaches the applicants' claimed method for manufacturing carboxylic acid and amino acid or amino acid condensate reactants. The Potterie patent teaches a method of producing a water soluble beef flavoring agent which basically involves reacting a mono or polysaccharide with methionine in the presence of cystine or cysteine-free hydrolysed protein. In addition to these principle reactants, the reaction medium may also contain minor amounts (i.e., between 0.3 to 3.0% by weight of the reaction medium) of a carboxylic acid in order to contribute desirable flavor notes to the flavoring agent (see Col. 2, lines 23-32). The applicants respectfully point out that there is no teaching or suggestion in the Potterie patent that the carboxylic acid provided in the reaction medium is reacting with any of the amino acids therein, particularly in the manner disclosed in the claimed method. Indeed, there is no teaching or suggestion that the carboxylic acid is reacting with anything at all. Thus, the applicants respectfully assert that one skilled in the art would have no motivation whatsoever to modify the teachings of the Potterie patent to arrive at the claimed method. Should the Examiner believe that the Potterie patent inherently teaches a reaction between the carboxylic acid and an amino acid, or that one skilled in the art would know that this reaction is taking place, the applicants would respectfully request the Examiner to cite a reference in support of his position.

Second, the applicants respectfully disagree with the assertion that it would have been obvious to one skilled in the art to modify the teachings of the Potterie patent by using a high-pressure withstanding container and conducting the process at a temperature of greater than 100°C. The applicants respectfully assert that the claimed method provides surprising and unexpected results that one skilled in the art would not have anticipated from the

teachings of the Potterie patent. An example of this can be found in Table 1 on page 9 of the present specification. Here, Experiments 1 and 2 clearly indicate that there is almost no reaction between the carboxylic acid and amino acid or its condensate at temperatures below 100°C, even under high pressure. Indeed, Table 1, Experiment 3 shows that the reaction is only slightly successful at a temperature of 105°C. Thus, the applicants respectfully assert that one skilled in the art would have no motivation whatsoever to modify the teachings of the Potterie patent to arrive at the claimed method. In addition, because the Potterie patent does not render the method of independent claims 1 and 7 obvious, it can neither render the invention recited in the claims that are dependent thereon obvious. The applicants respectfully request that this rejection be withdrawn in view of the above comments and amendments.

* * *

In view of the foregoing amendment and comments, Applicants believe that claims 1-7 and 11 are now in condition for allowance. Reexamination and reconsideration of the pending claims are respectfully requested.

Respectfully submitted,

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Dated: Feb. 24th, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

Claims 1 and 7 have been amended as follows:

1. (Amended) A method for manufacturing carboxylic acid and amino acid or amino acid condensate reactants, comprising the steps of:

providing first starting material, said first starting material being carboxylic acids;

providing second starting material, said second starting material being one of amino acids and amino acid condensates;

mixing said first starting material and said second starting material in a high-pressure withstanding container under an aqueous system; and

heating the mixture in the absence of a reduction catalyst to a temperature greater than 100° C to cause a reaction between said first starting material and said second starting material.

7. (Amended) Carboxylic acid and amino acid or amino acid condensate reactants manufactured by a method comprising the steps of:

providing first starting material, said first starting material being carboxylic acids;

providing second starting material, said second starting material being one of amino acids and amino acid condensates;

mixing said first starting material and said second starting material in a high-pressure withstanding container under an aqueous system; and

heating the mixture in the absence of a reduction catalyst to a temperature greater than 100° C to cause a reaction between said first starting material and said second starting material.